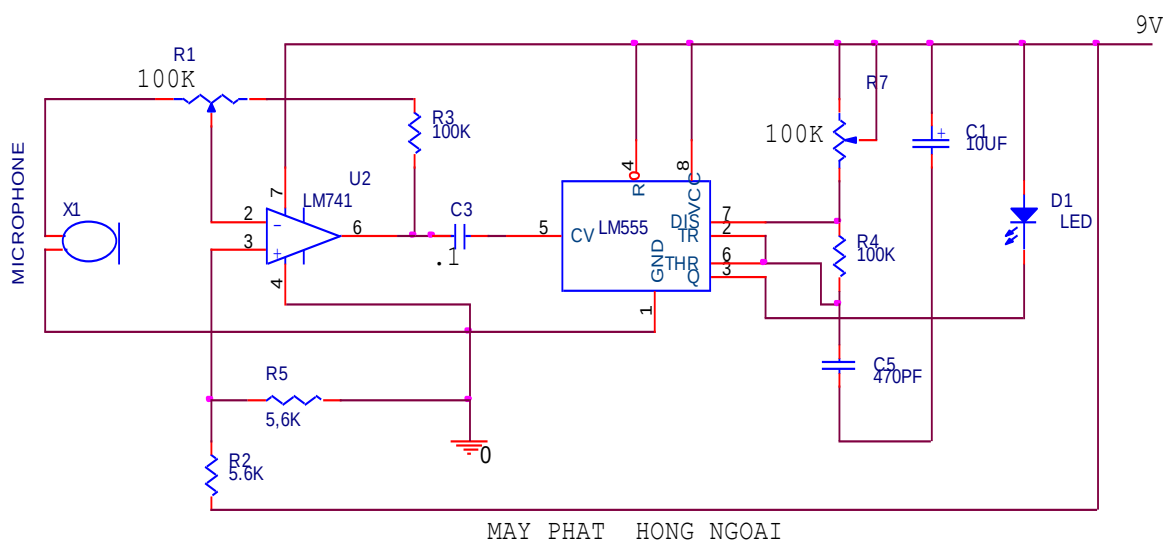
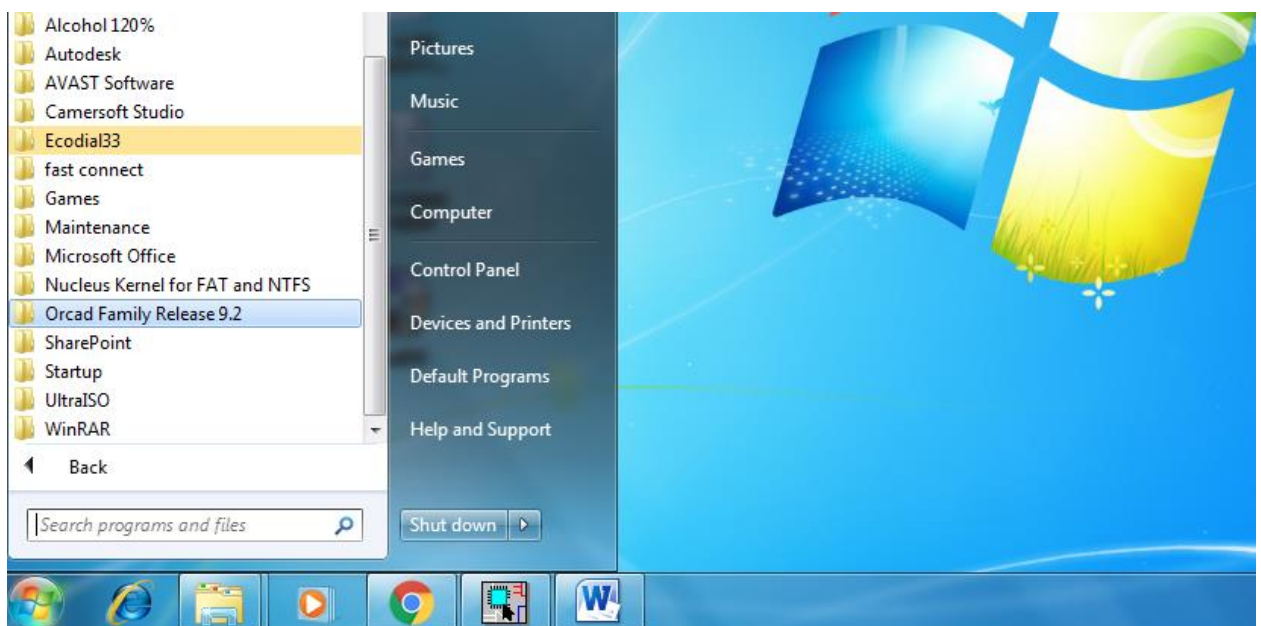


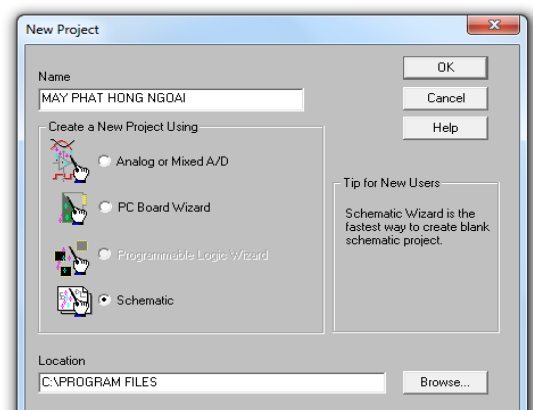
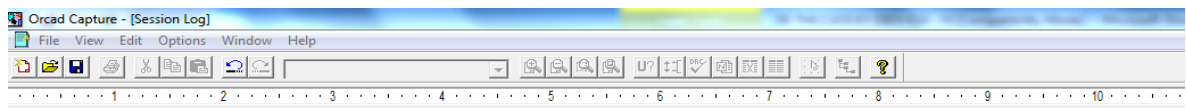
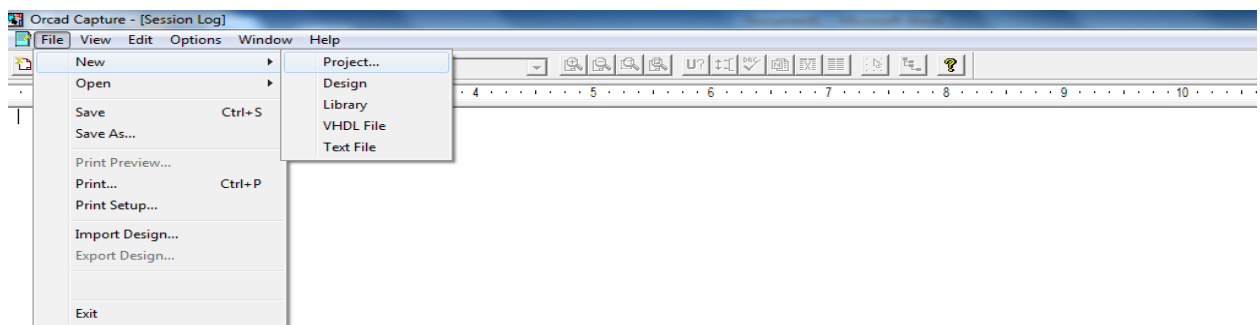
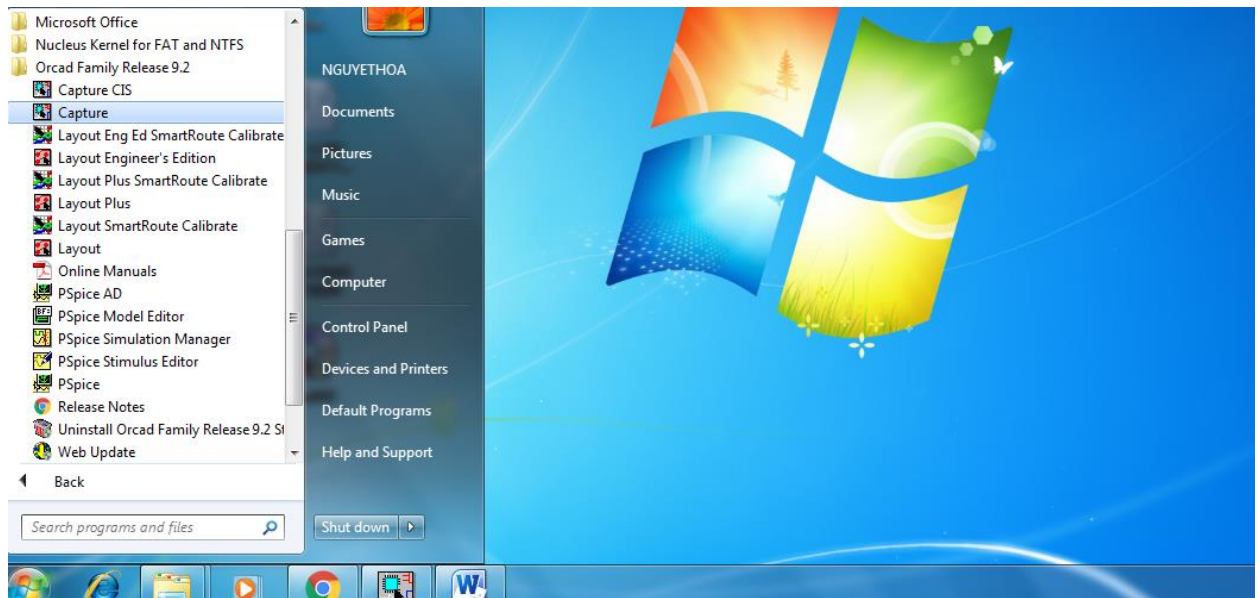
MÔN HỌC: AUTOCAD TRONG KỸ THUẬT ĐIỆN
HƯỚNG DẪN SỬ DỤNG PHẦN MỀM ORCAD
Vẽ mạch nguyên lý và mạch in của mạch phát hồng ngoại
Giảng viên: ThS. Nguyễn Thị Nguyệt Hoa

1. Sơ đồ nguyên lý:

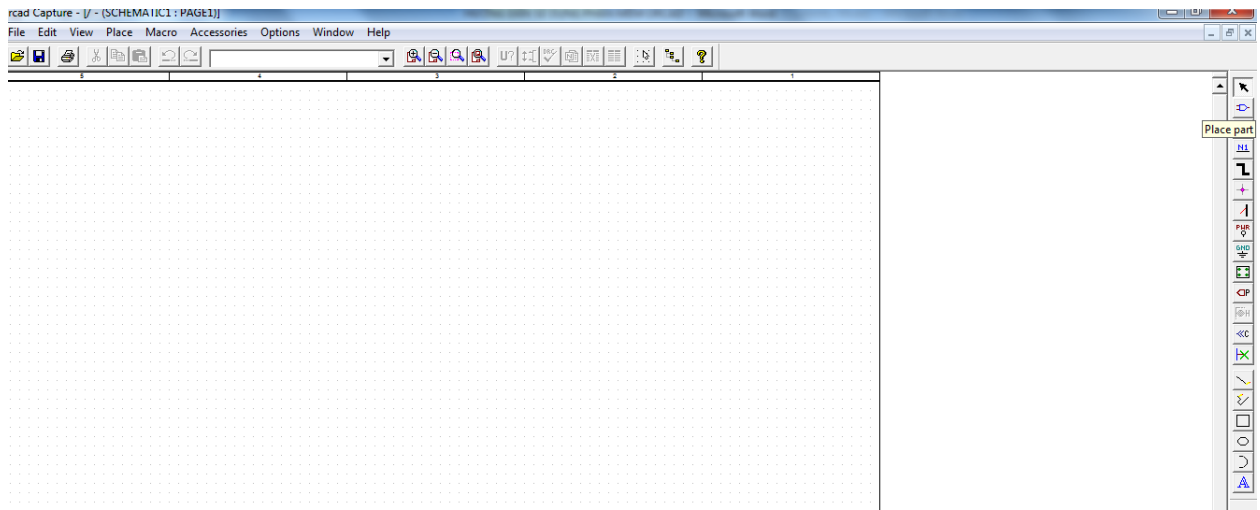


2. Các bước vẽ

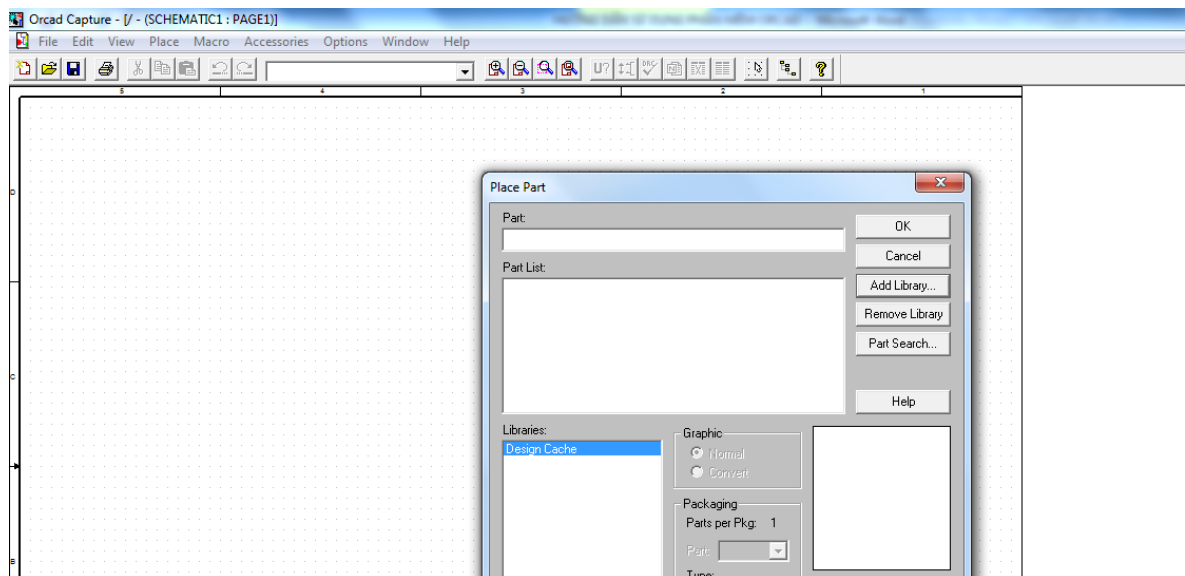




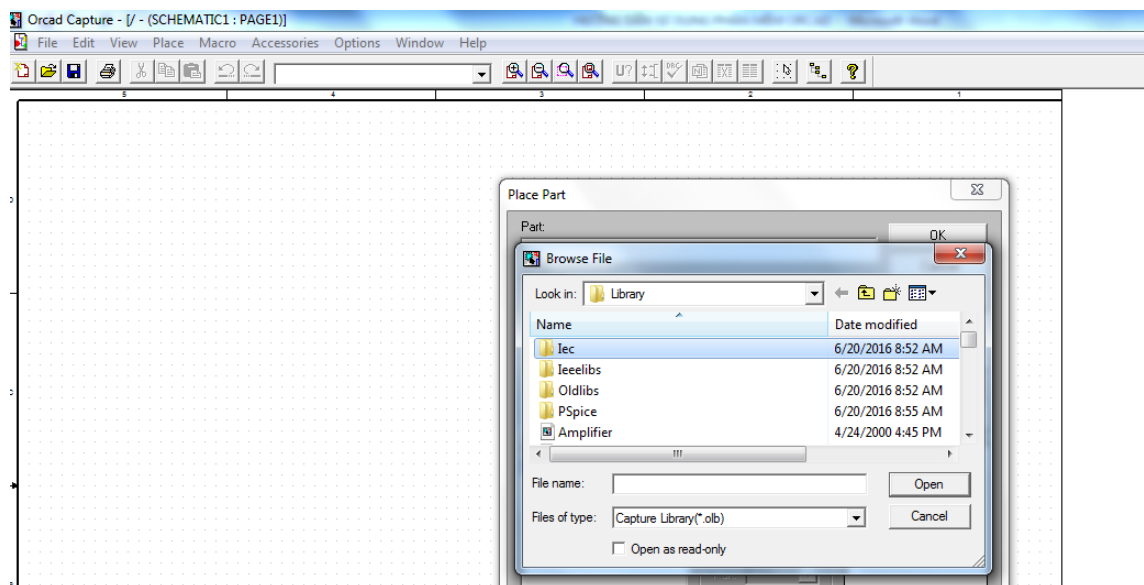
Chọn OK



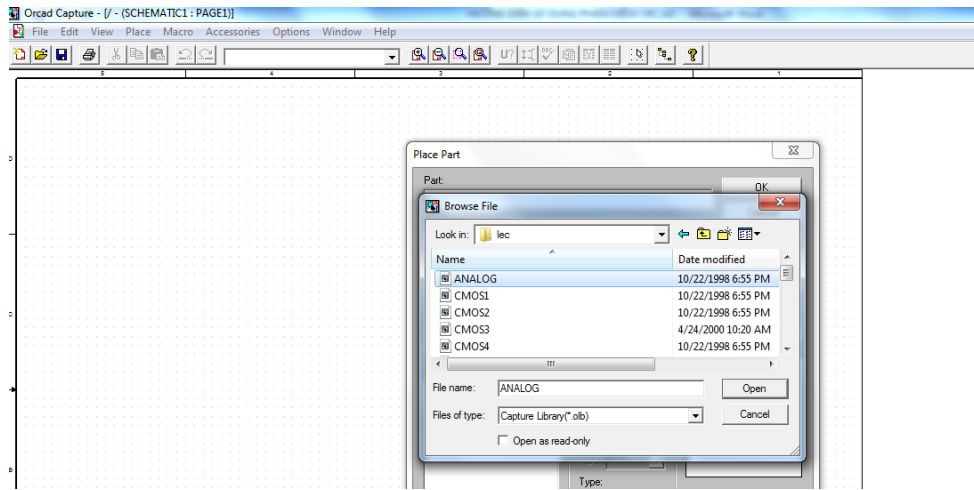
Chọn place part



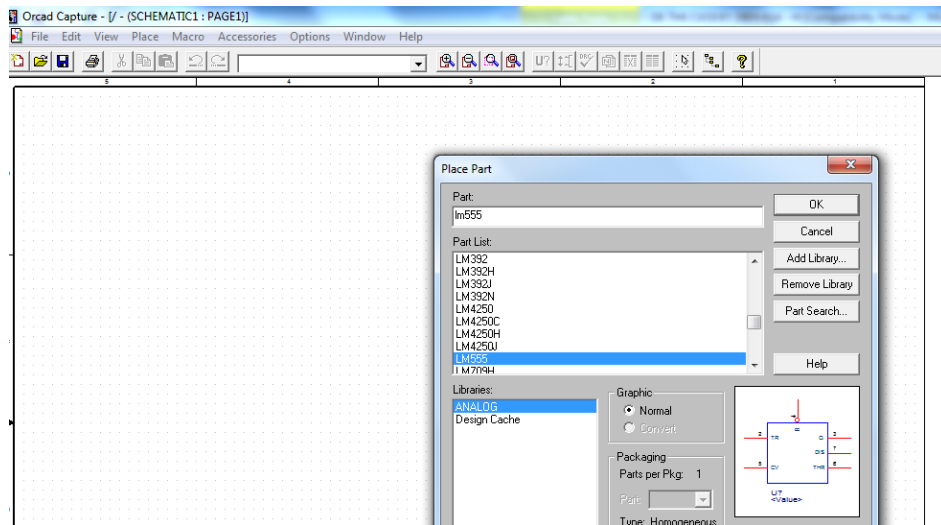
Nhấp chuột vào add Library



Chọn IEC

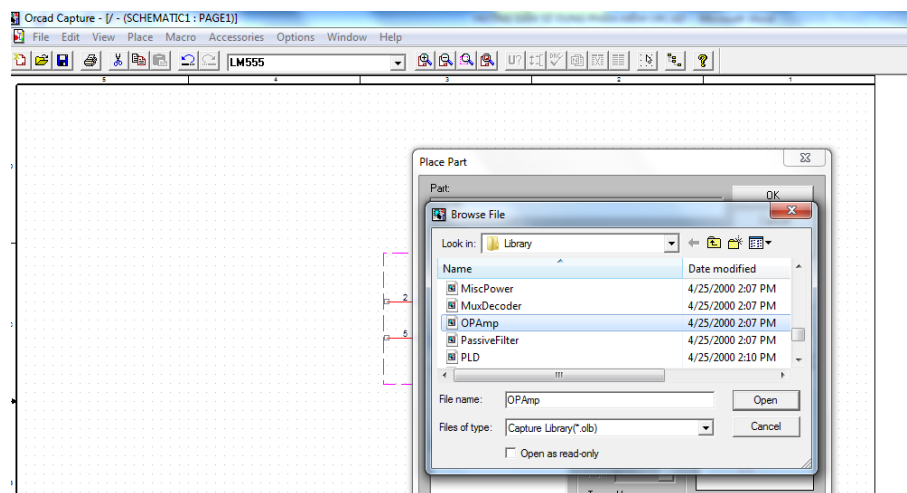


Chọn Analog

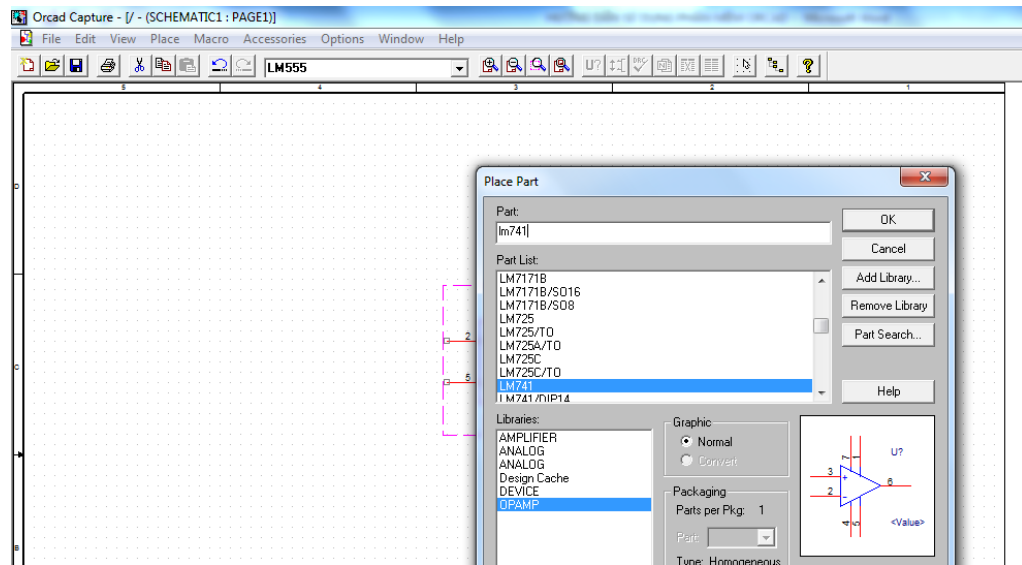


Gõ lm555 vào ô part, sau đó chọn OK

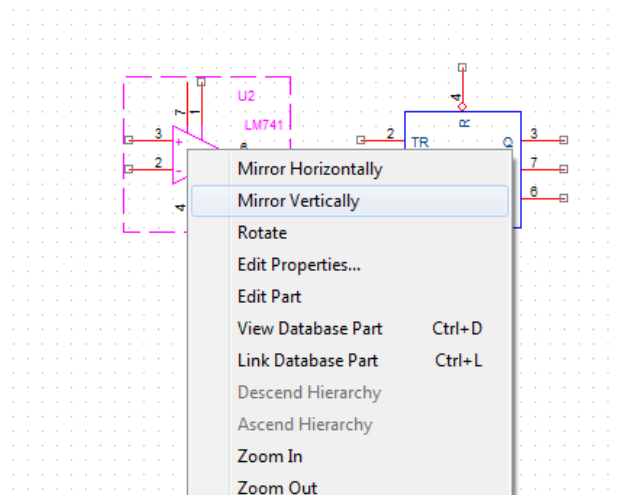
Vào thư viện Library lấy OPamp



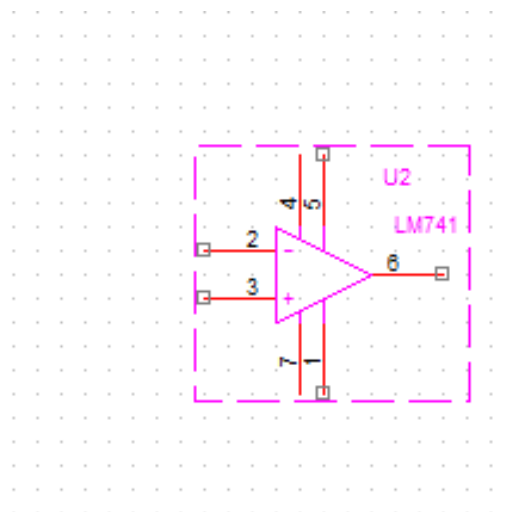
Gỏ lm741 vào ô part



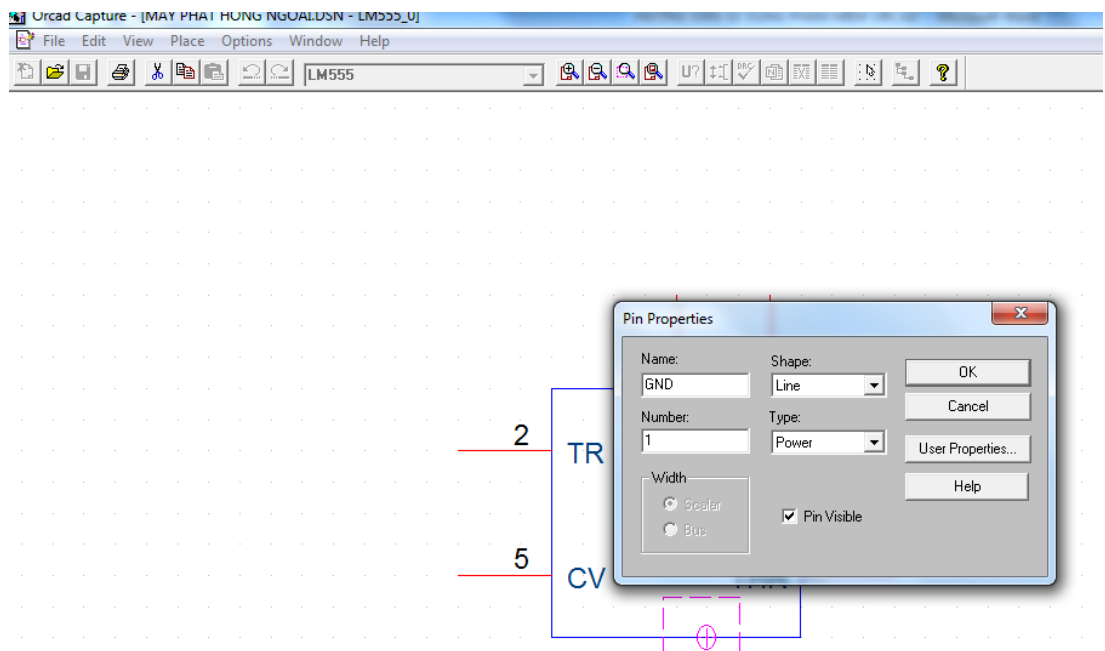
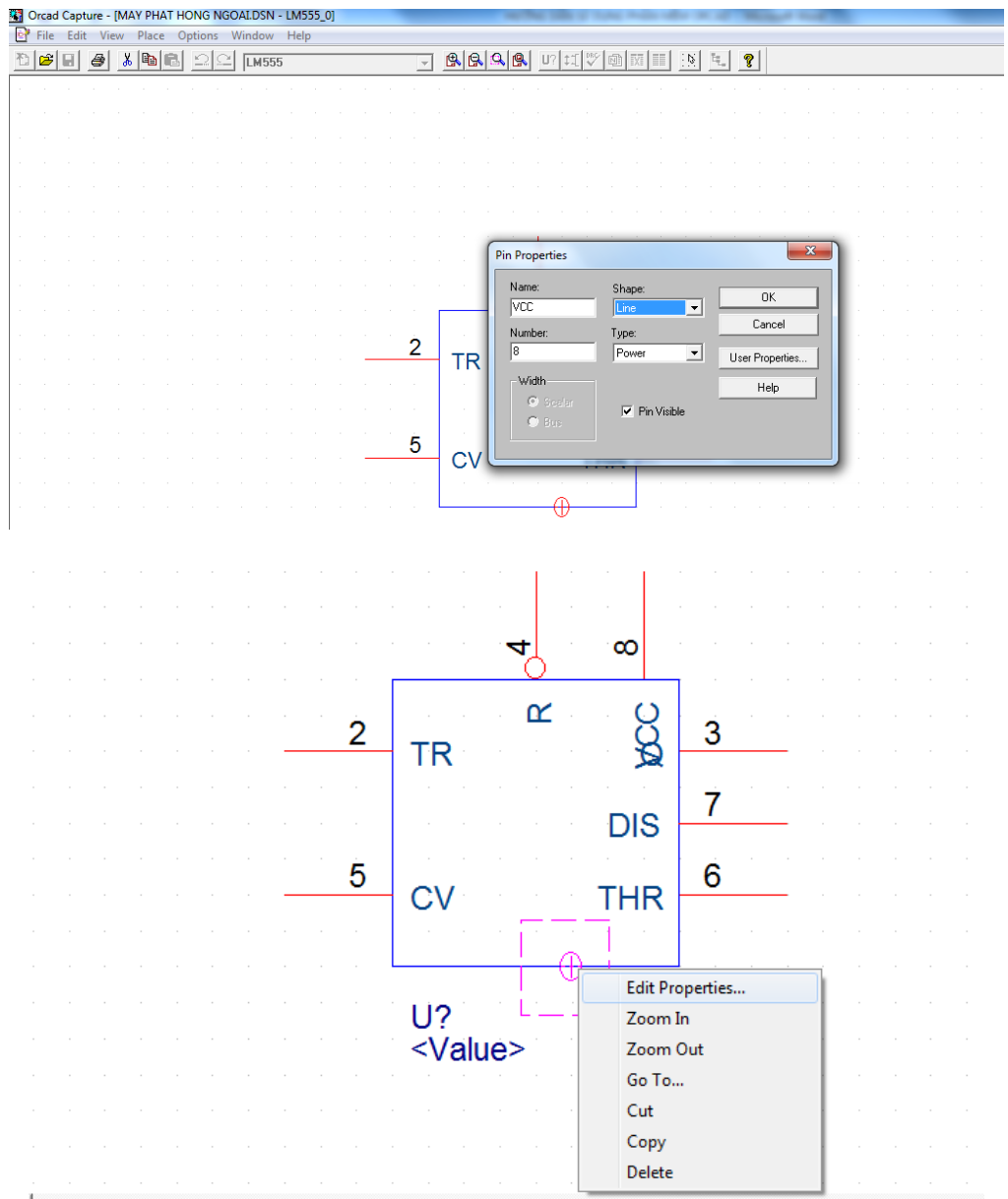
Chọn Ok



Chọn mirror Vectlally



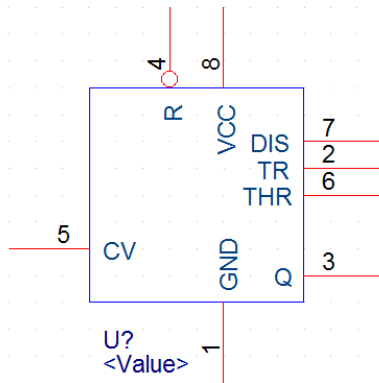
Hiện chân ả IC LM555



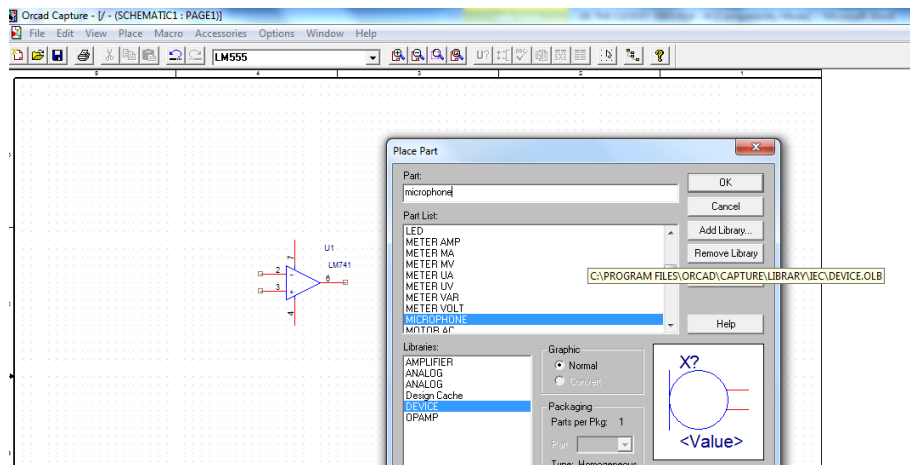
Chọn OK

Nhấn chuột trái và di chuyển chân

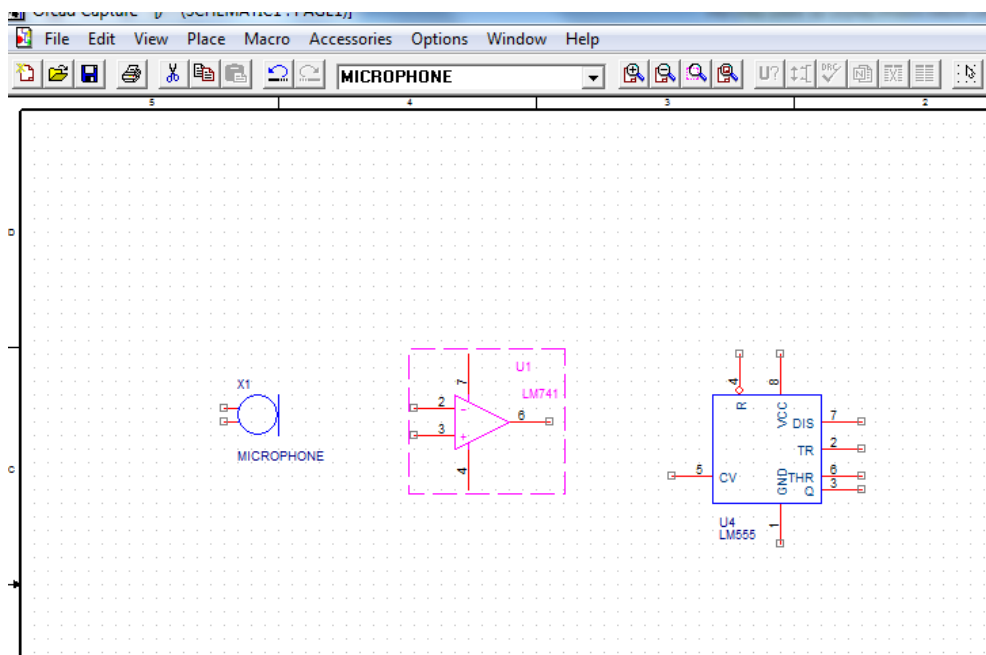
Đóng cửa sổ và chọn update current



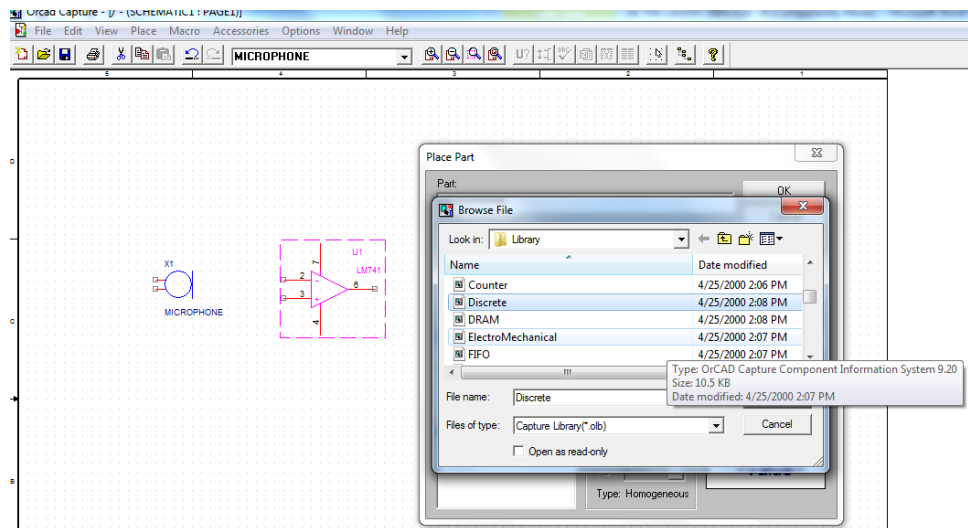
Lấy microphone



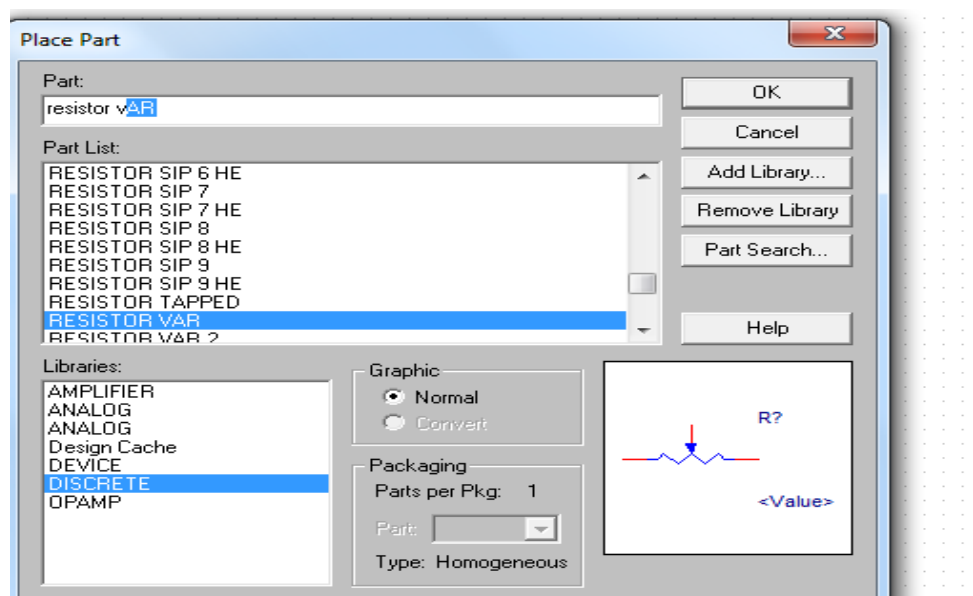
Quay đối xứng qua trục tung



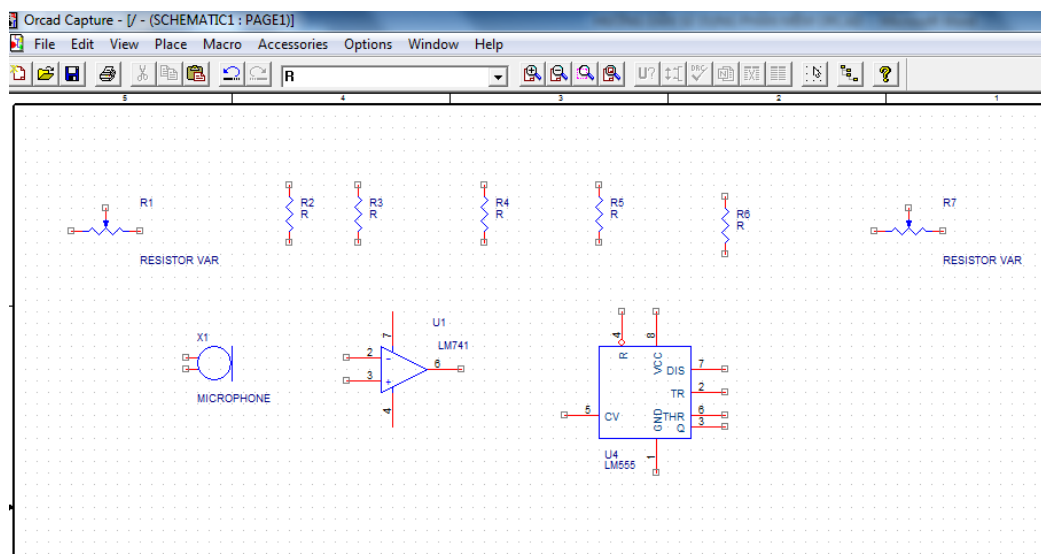
Vào thư viện Discret để lấy điện trở và tụ điện



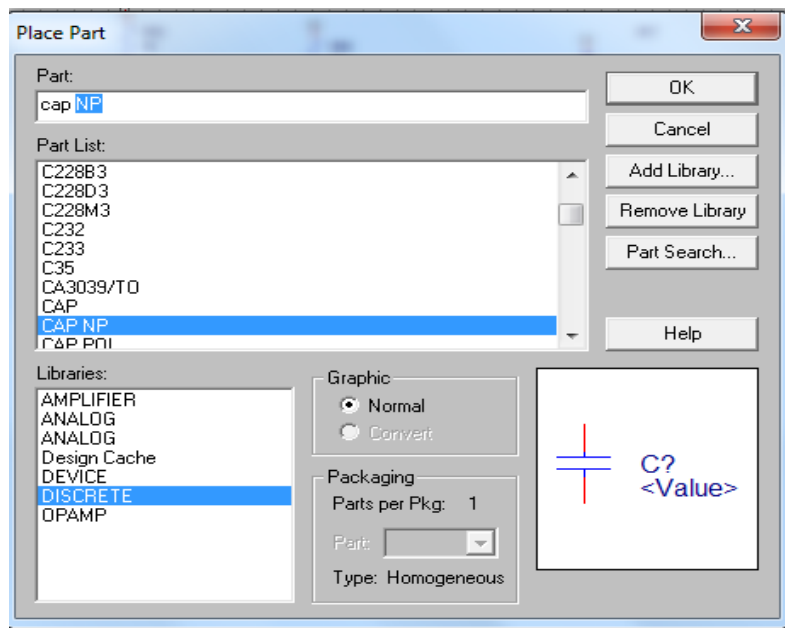
Lấy biến trở



Lấy điện trở

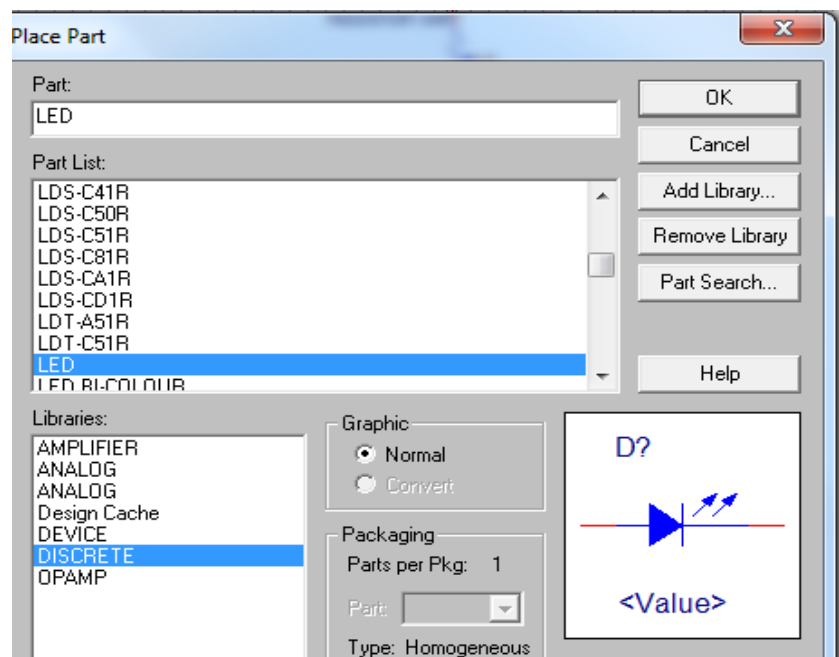


Lấy tụ điện

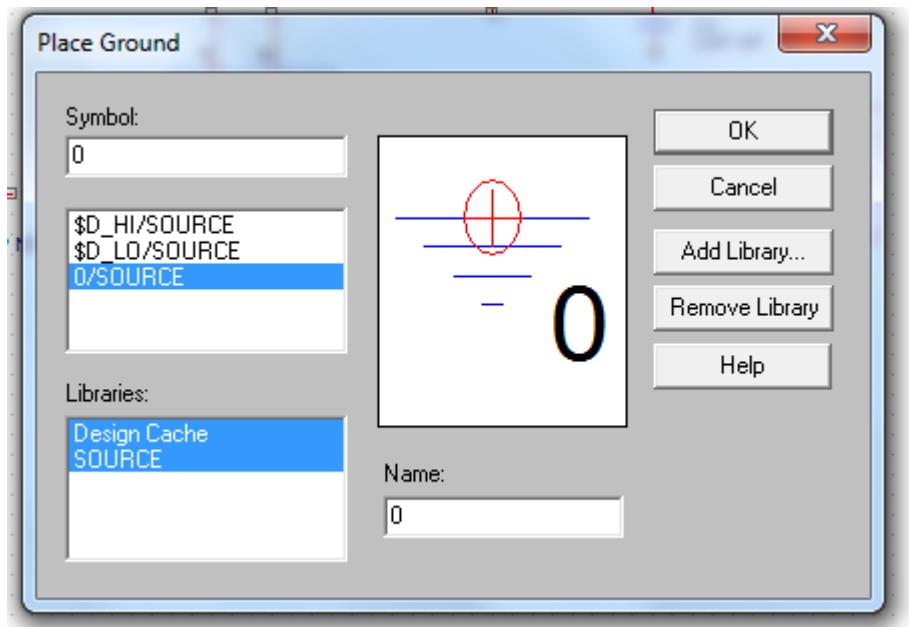


Chọn OK

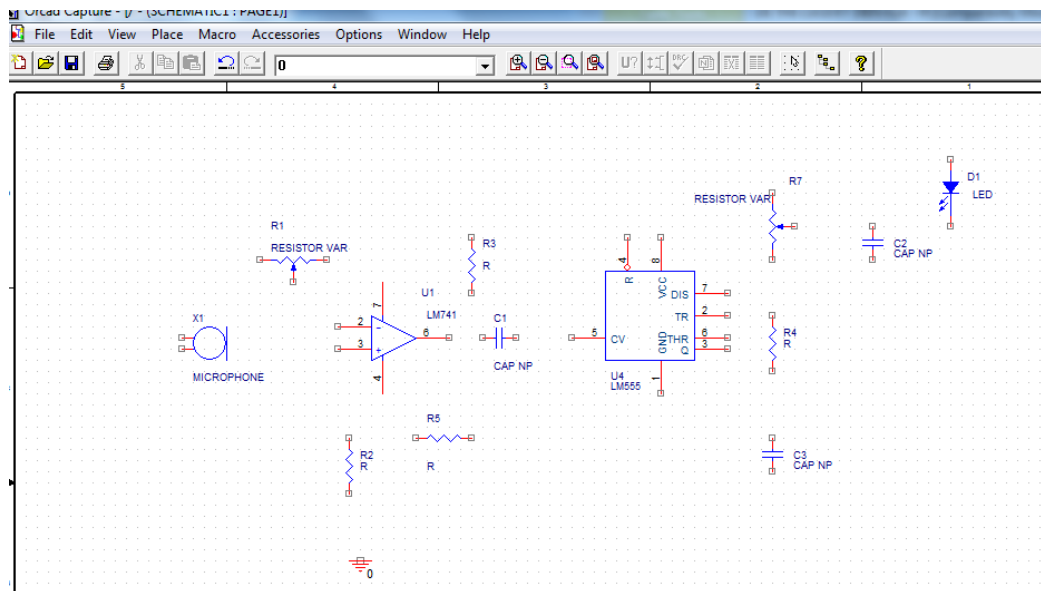
Lấy LED



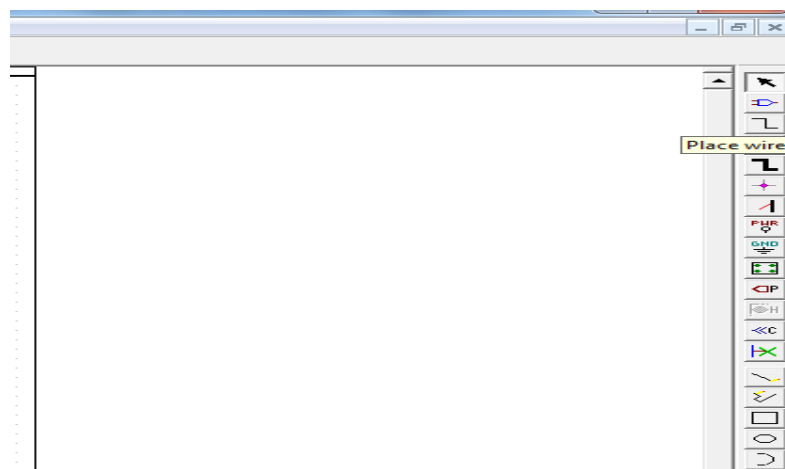
Lấy nối đất



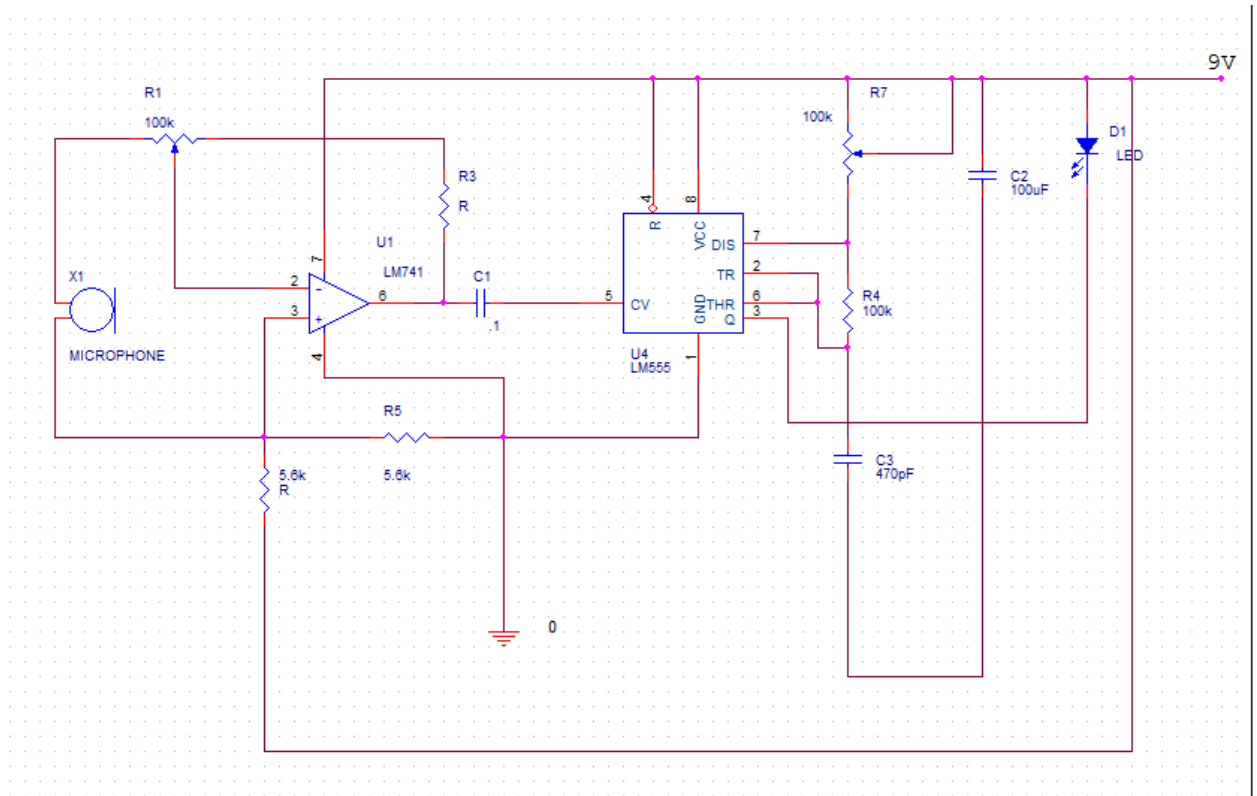
Sắp xếp lại linh kiện như sau



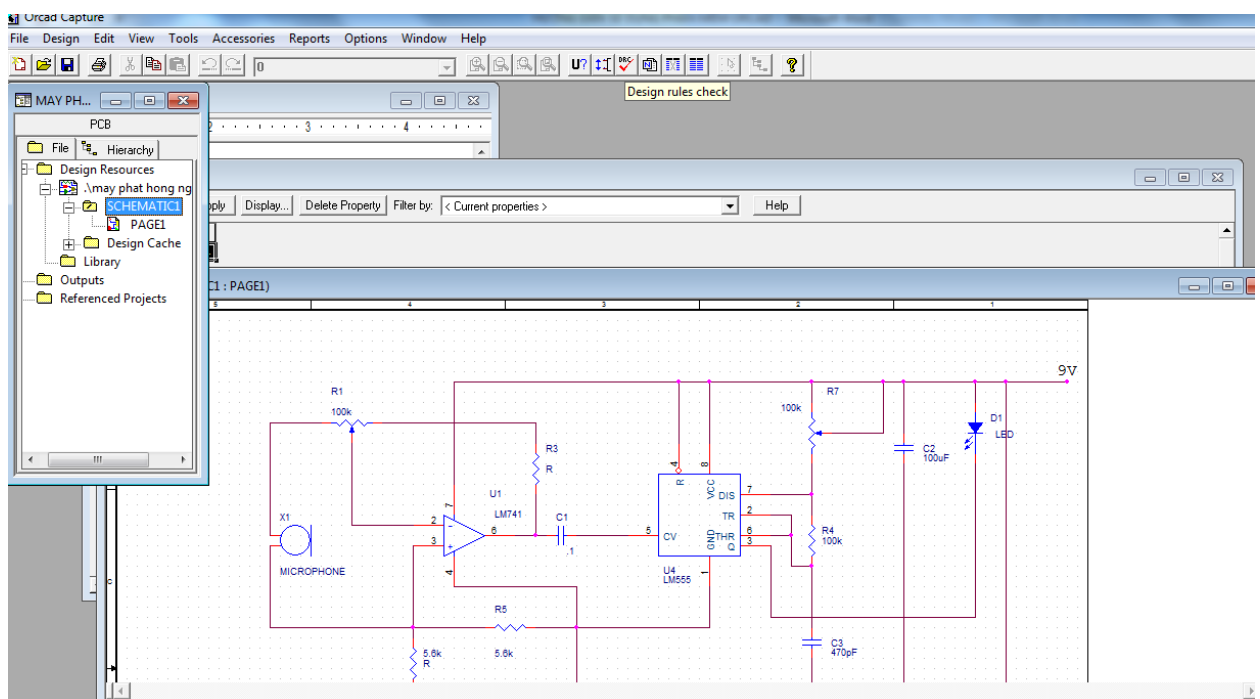
Tiến hành nối dây, nhấp vào place wire trên thanh công cụ



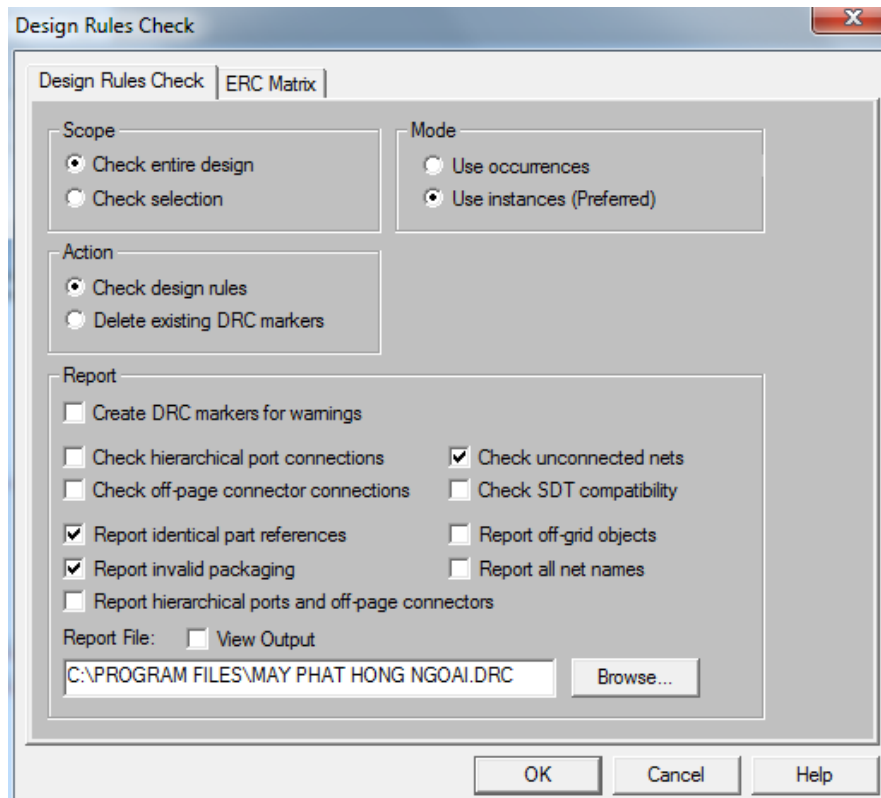
Ta được như sau:



Kiểm tra lỗi mạch nguyên lý



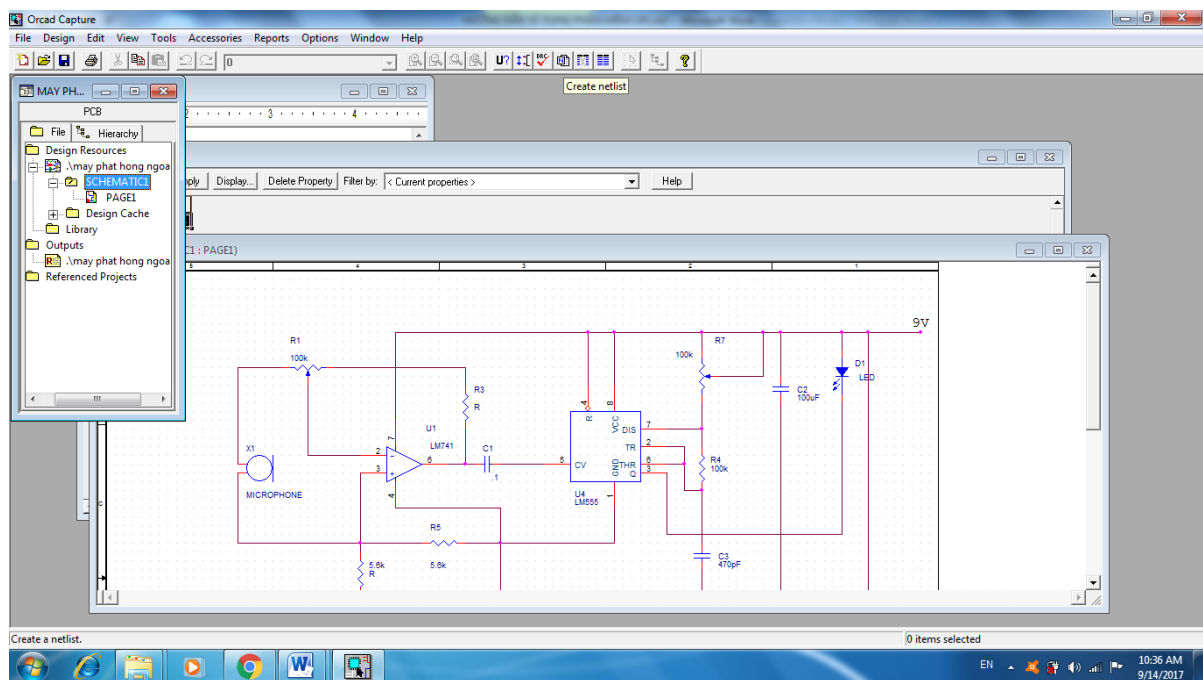
Nhấp vào Design rule check

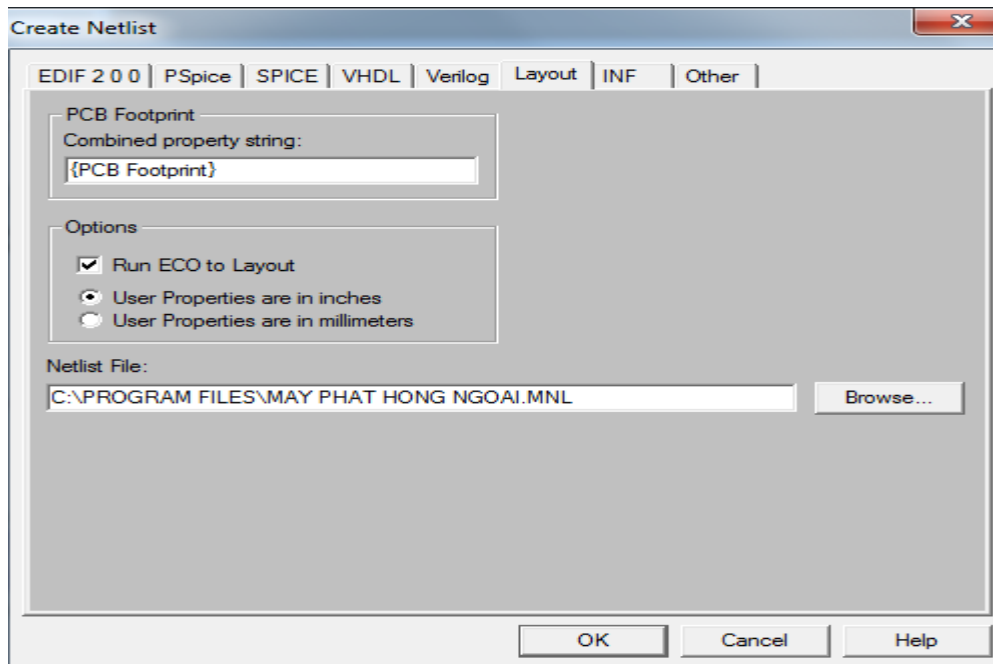


Chọn ok

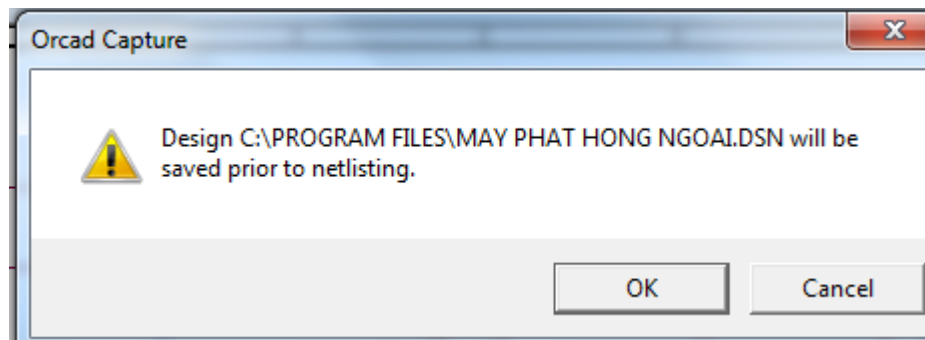
Mạch không bị lỗi,

Nhấp chuột vào creat nestlist



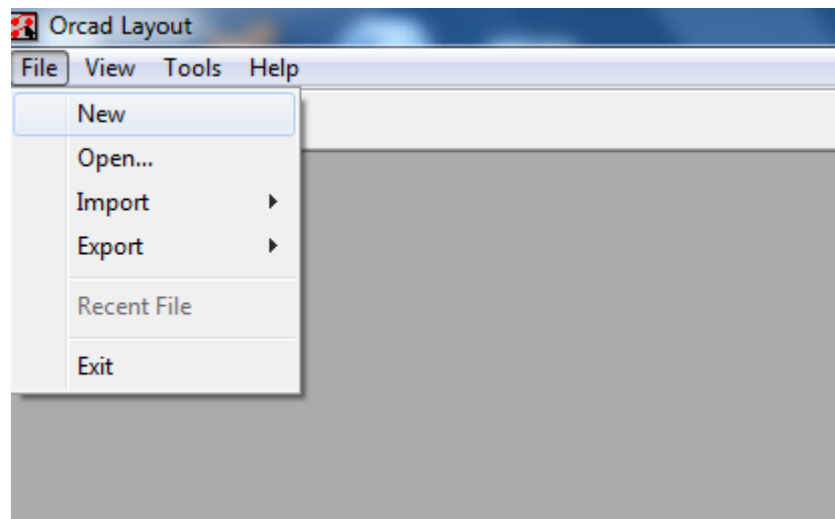
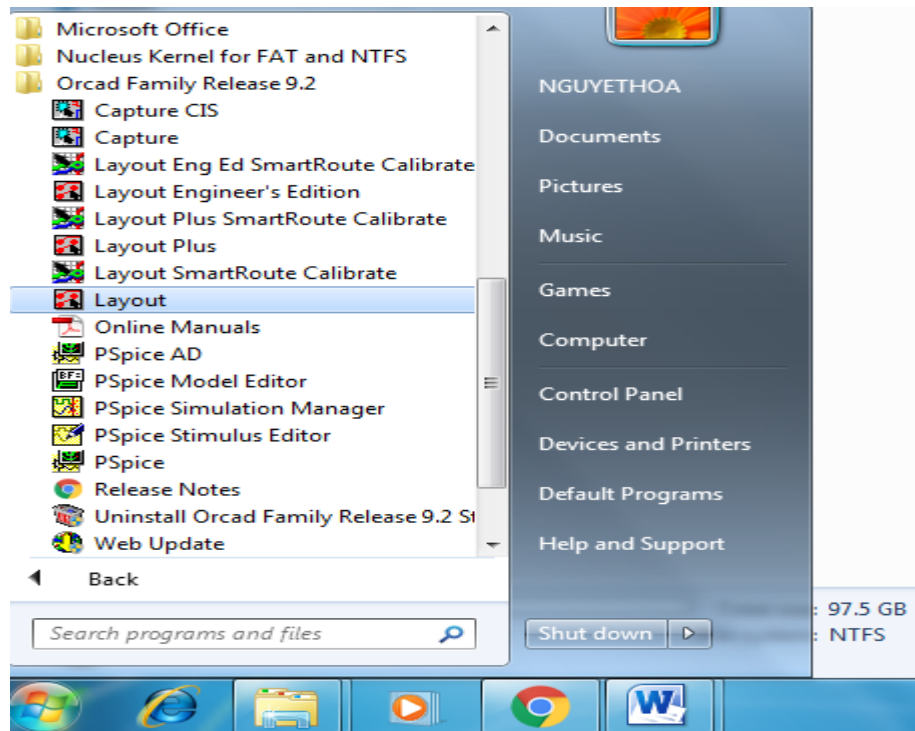


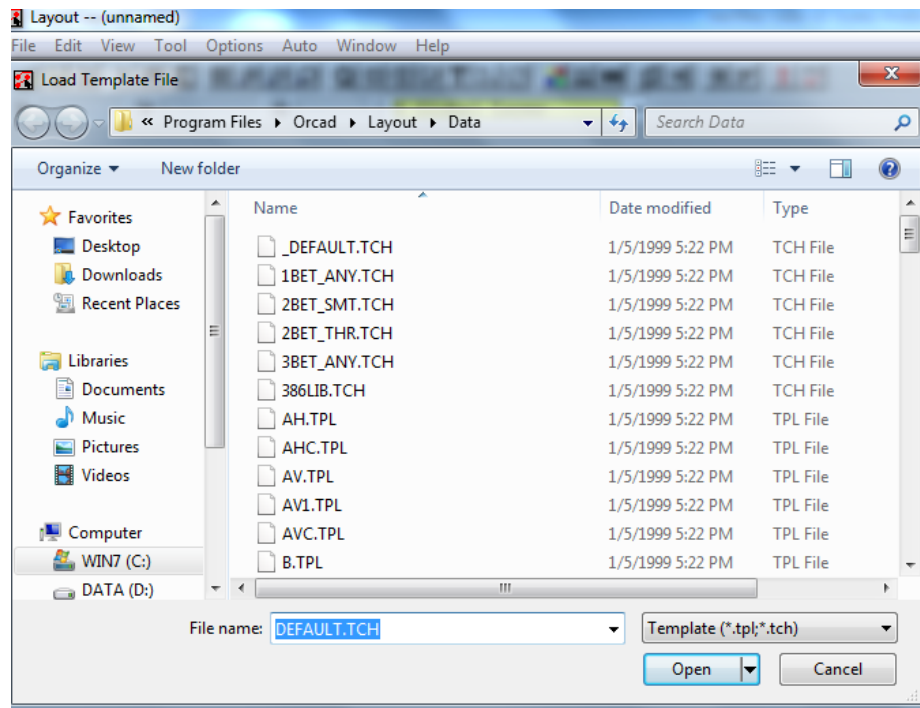
Chọn OK



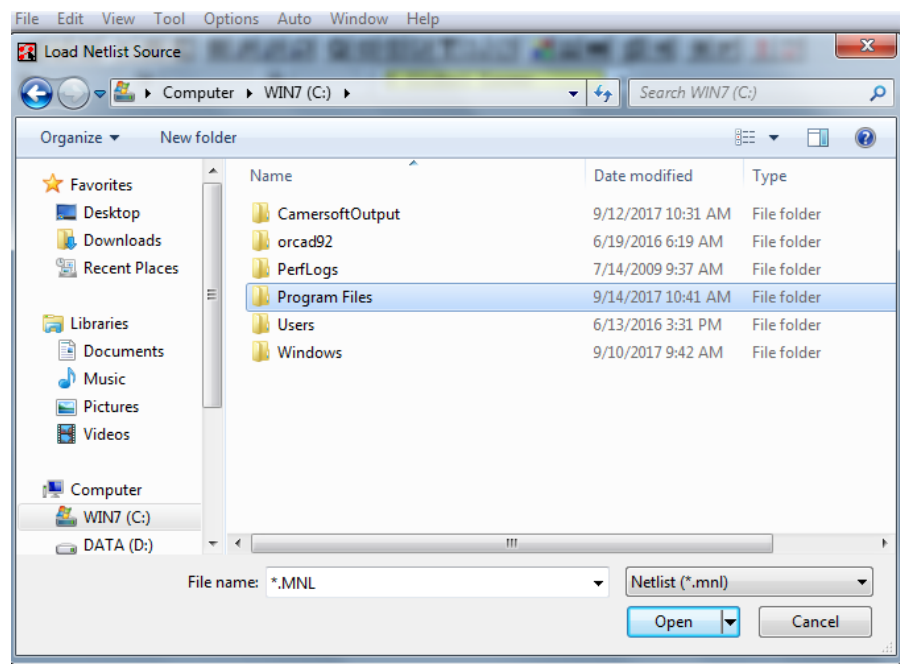
Mạch nguyên lý đã được kết nối qua layout.

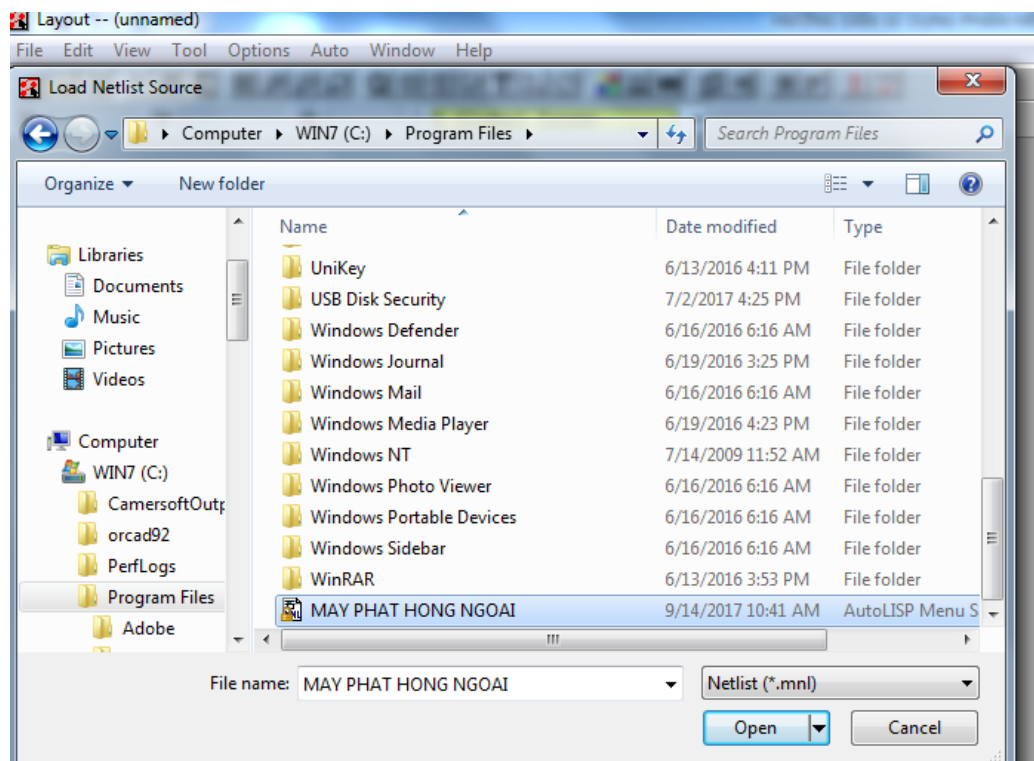
Mở mạch điện đã vẽ bên layout



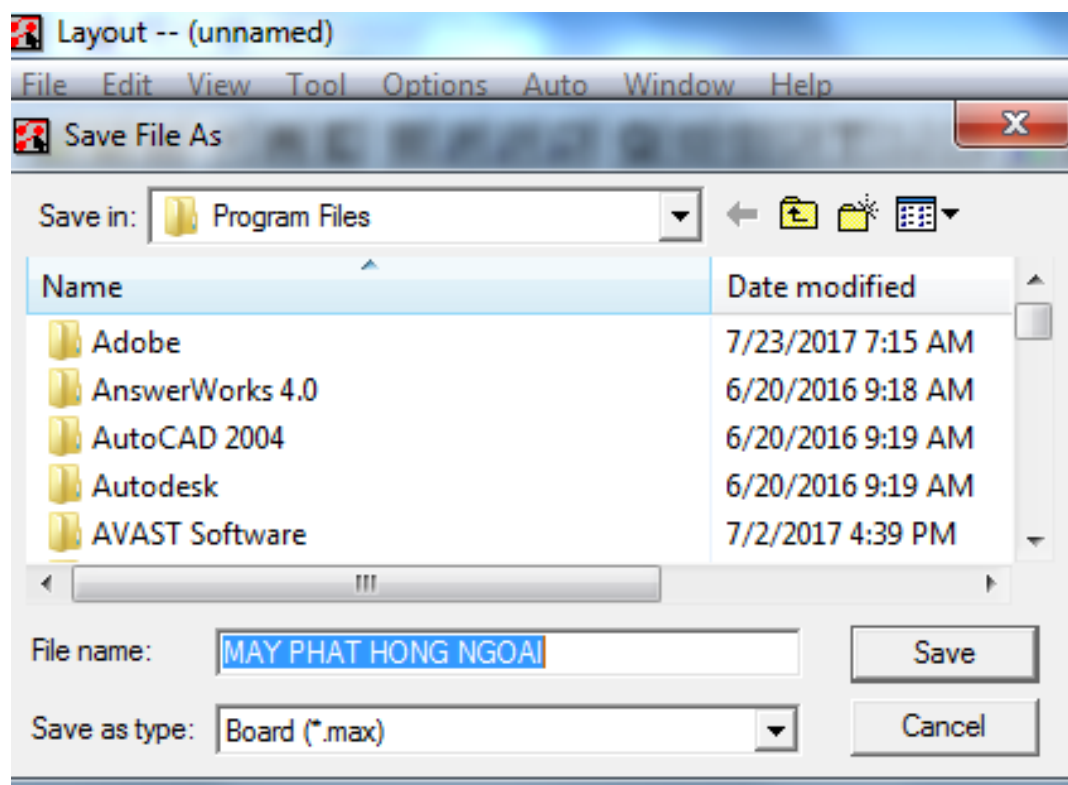


Chọn Open

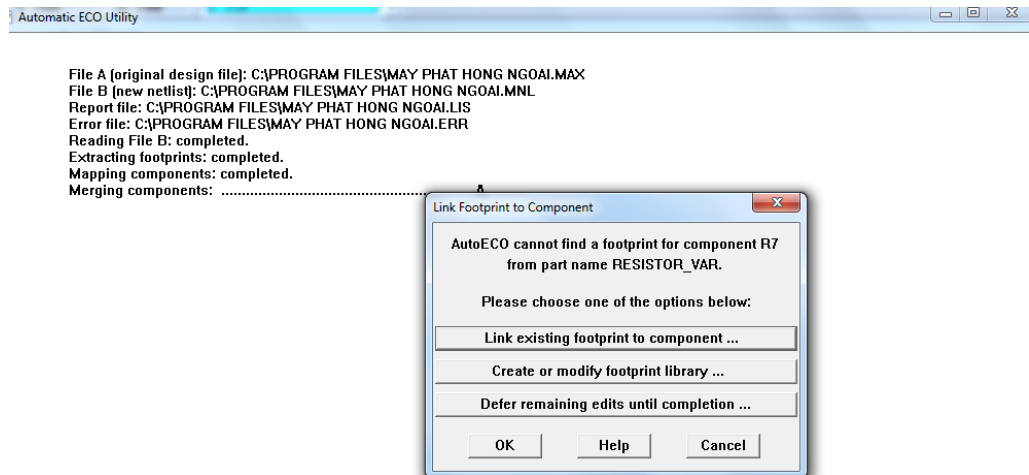




Chọn Open

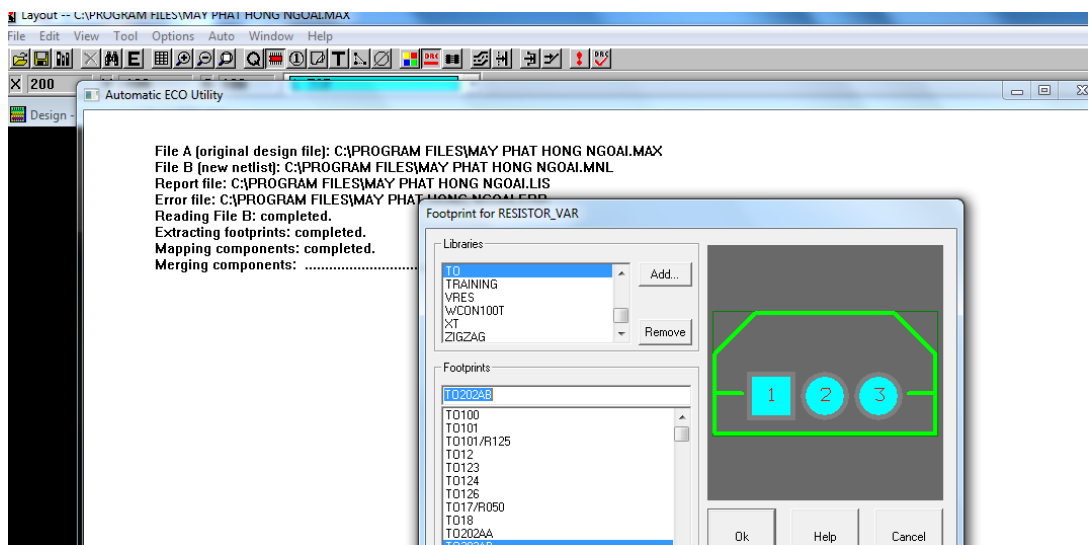


Chọn Save

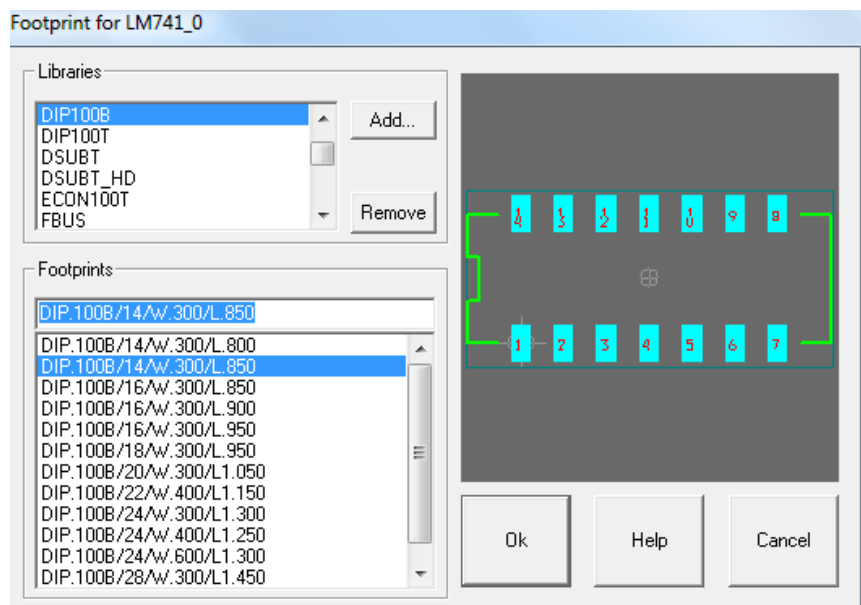


\Nhấp vào Link existing ..

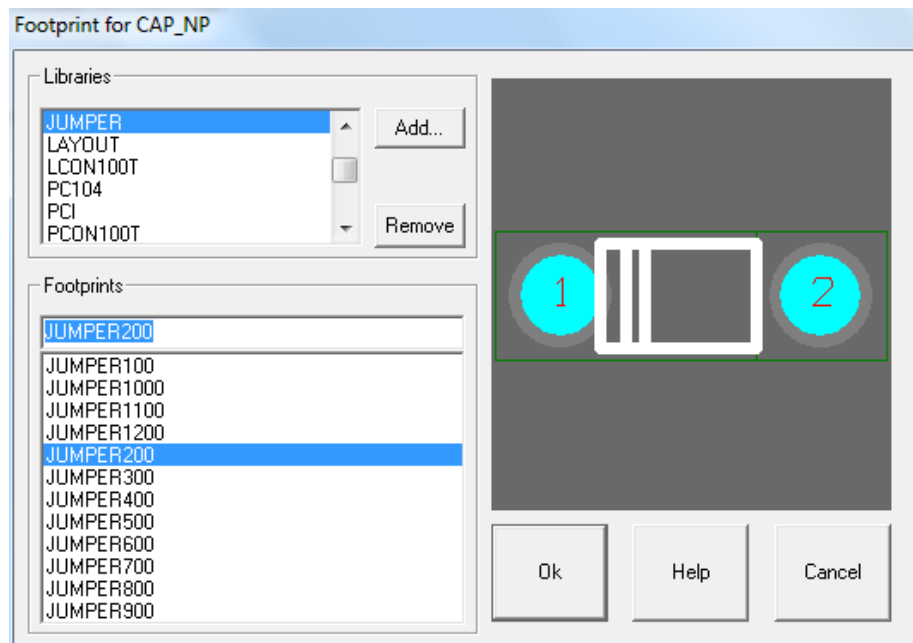
Tìm chân cắm cho biến trở



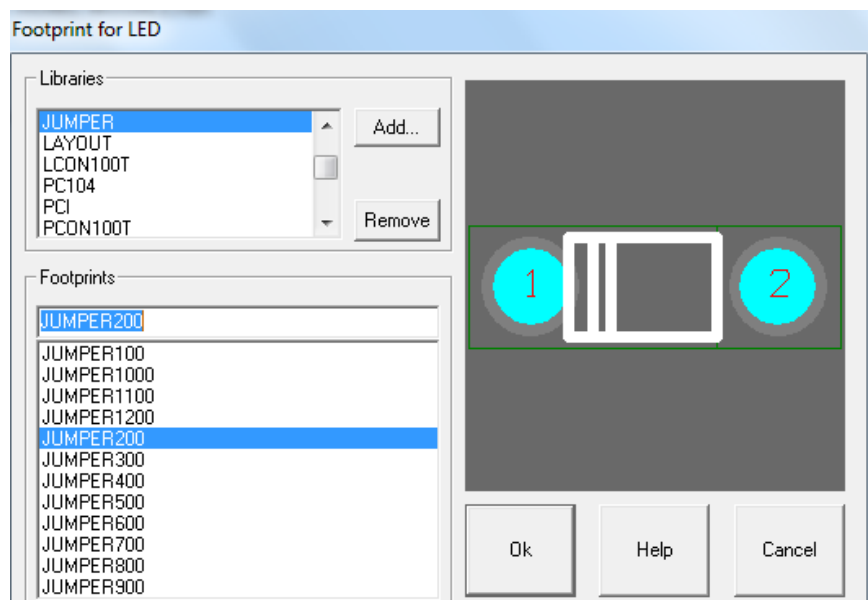
Tìm chân cắm cho IC741



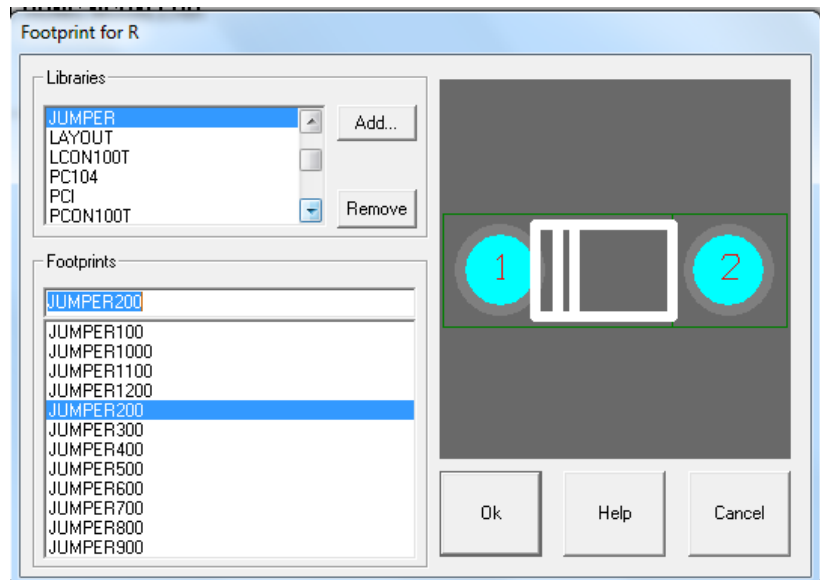
Tìm chân cắm cho tụ



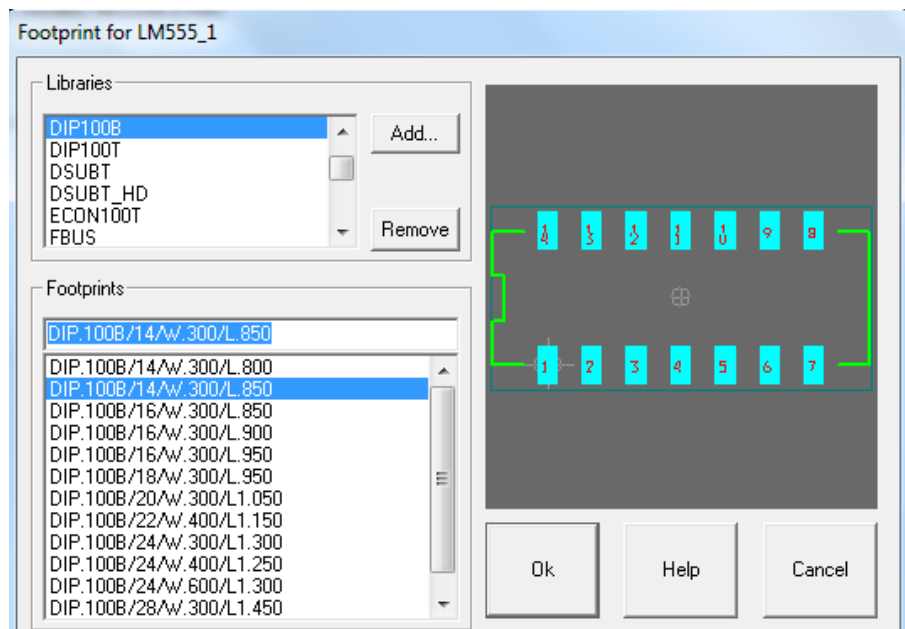
Tìm chân cắm cho led



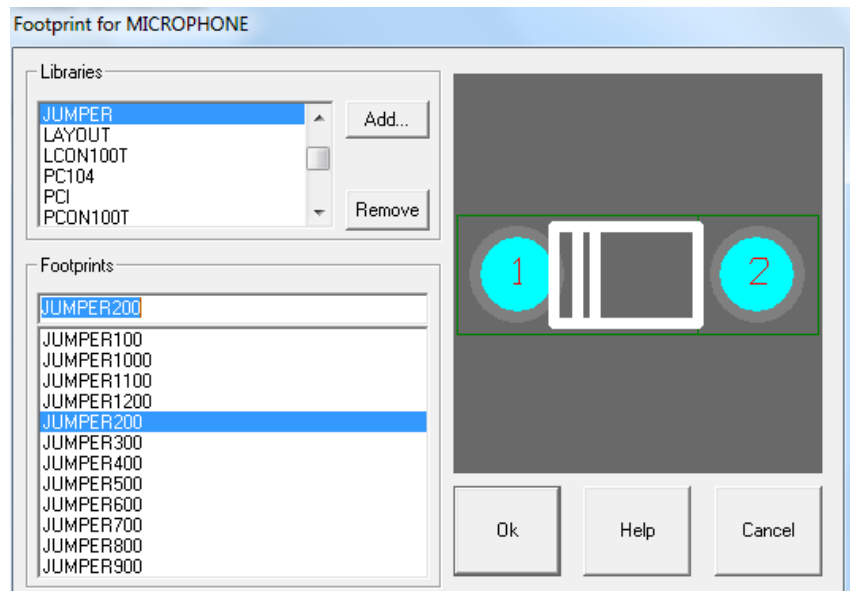
Tìm chân cắm cho điện trở



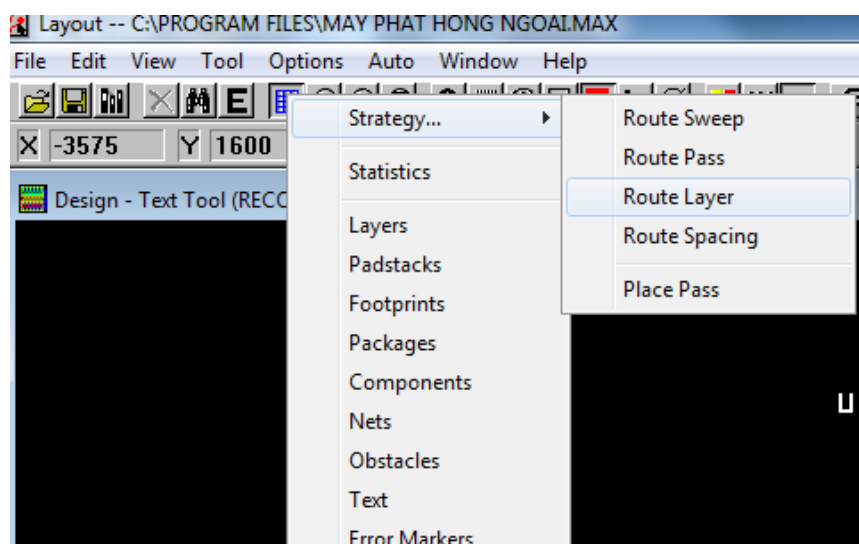
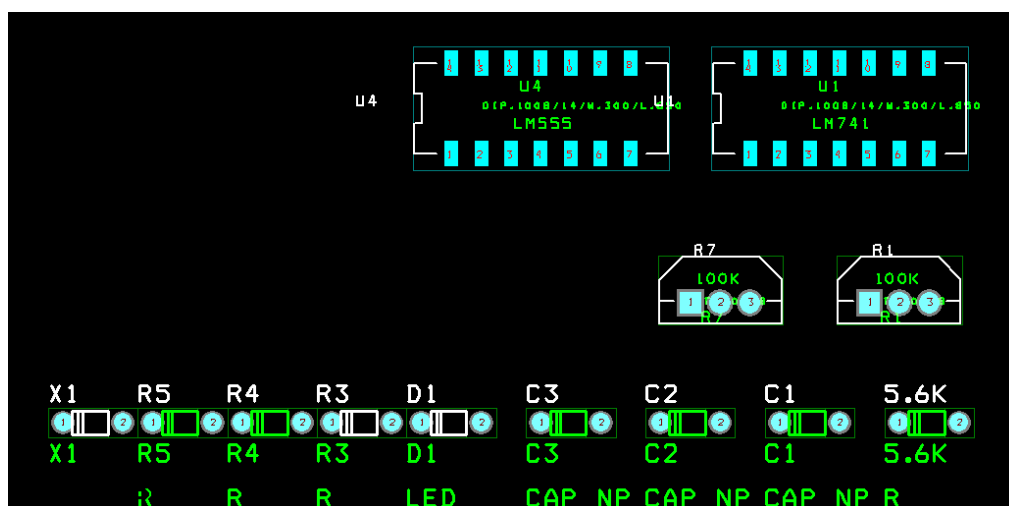
Tìm chân cắm cho IC LM555



Tìm chân cắm cho Micro phone



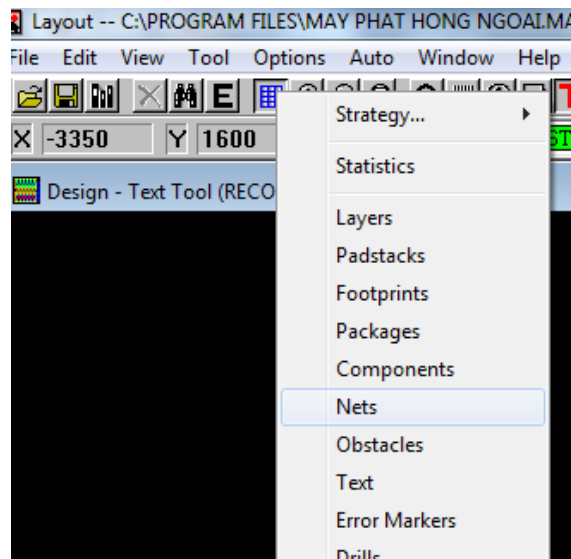
Được giao diện như sau



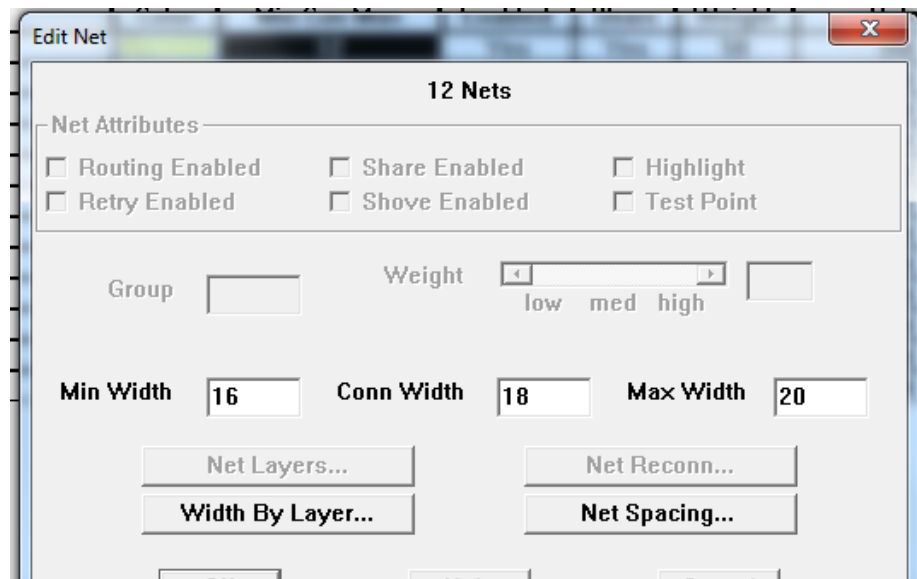
Chọn Route Layer, với mạch in 1 lớp ta chọn như sau:

Sweep/Layer Name	Enabled	Cost	Direction	Between
Win/Comp/Manual				
TOP	Yes	50	80 Horz.	30
BOTTOM	No	50	20 Vert.	30
INNER1	No	50	20 Vert.	30
INNER2	No	50	80 Horz.	30
1 Preliminary Route				
TOP	Yes	50	80 Horz.	0
BOTTOM	No	50	20 Vert.	0
INNER1	No	50	20 Vert.	0
INNER2	No	50	80 Horz.	0
2 Maze Route				
TOP	Yes	50	80 Horz.	30
BOTTOM	No	50	20 Vert.	30
INNER1	No	50	20 Vert.	30
INNER2	No	50	80 Horz.	30
3 Next 1				
TOP	Yes	50	51 Horz.	0
BOTTOM	No	50	49 Vert.	0

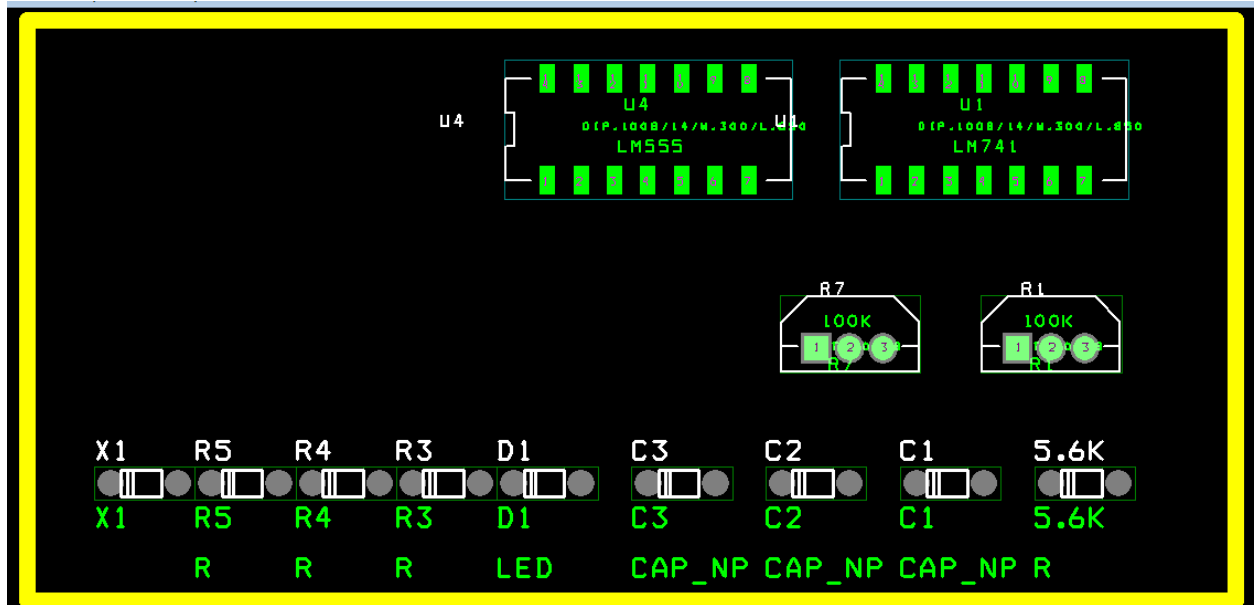
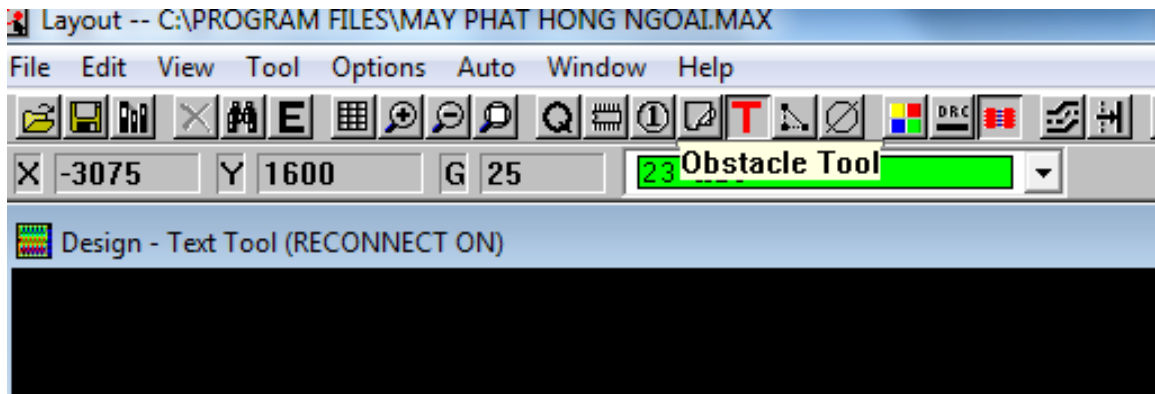
Tiếp theo chọn net



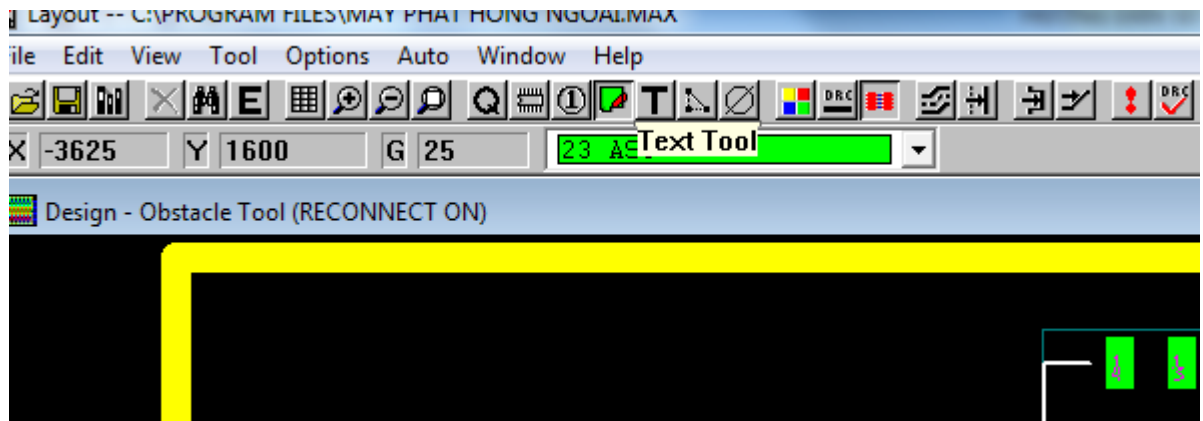
Chọn bề dày đường mạch in

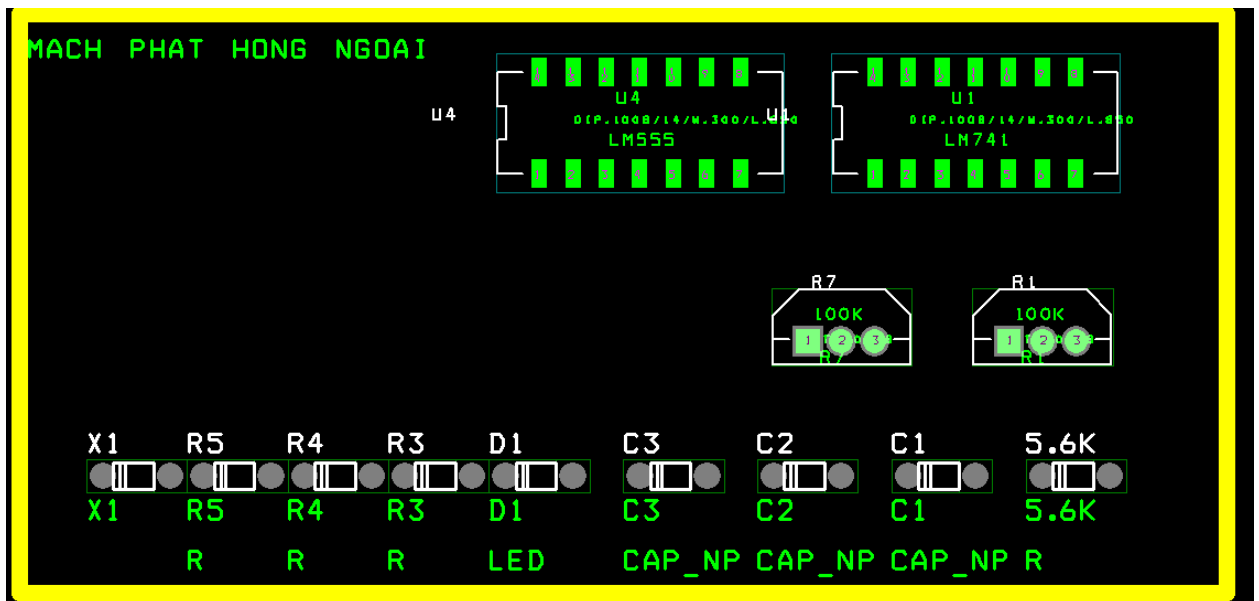
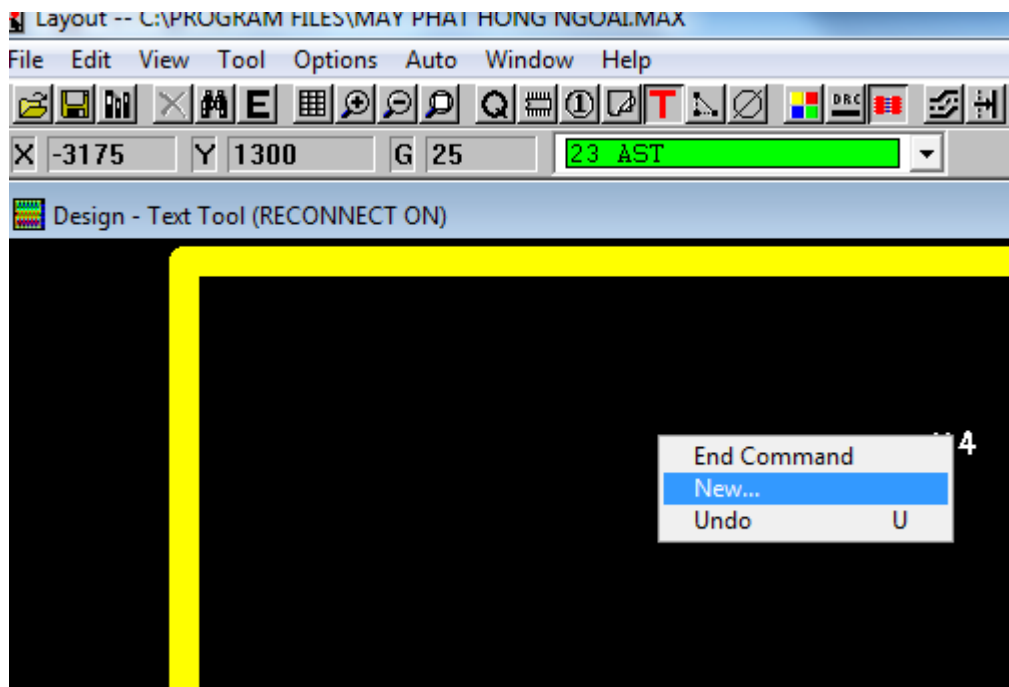


Kẻ khung cho mạch in, nhấp chuột trái và kéo từ trái qua phải, từ trên xuống

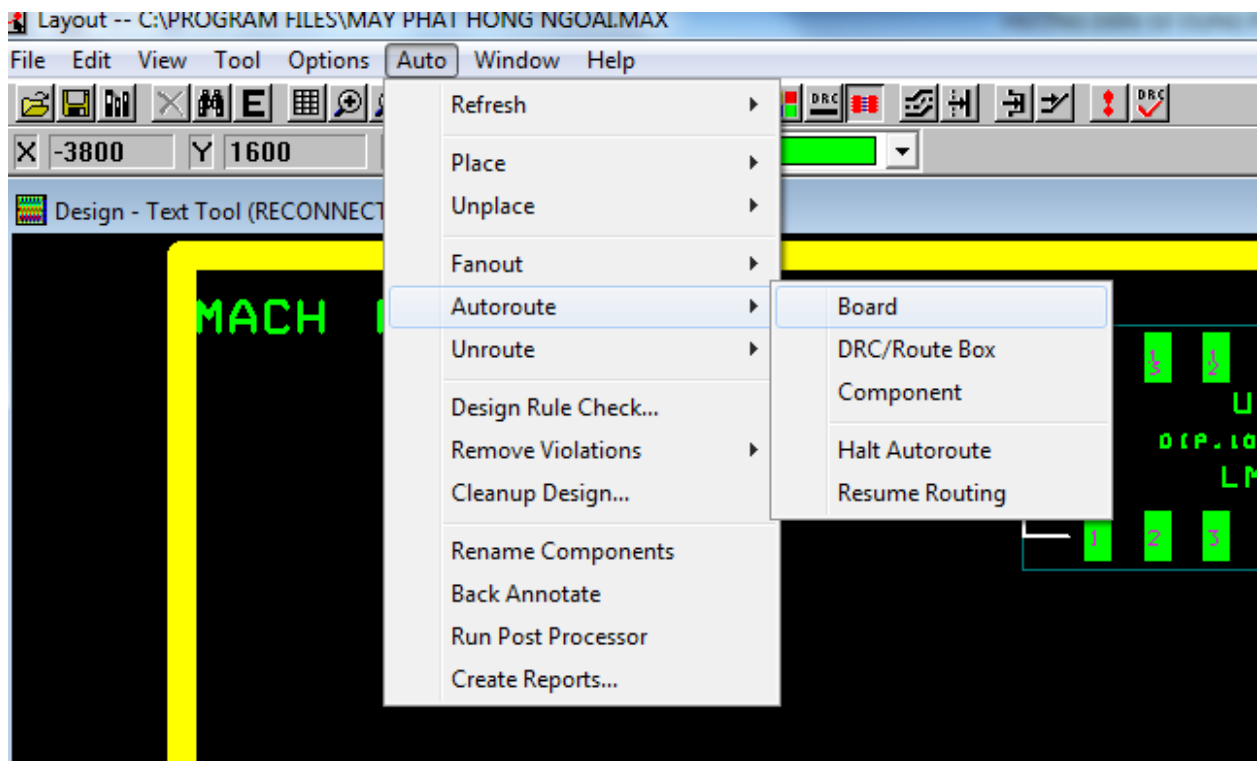


Đặt tên cho mạch in, nhập vào chữ T





Chạy tự động mạch in



Mạch in sau khi chạy tự động có hình như sau:

